

**WET LOOP WATER SPRAY ENCLOSURE
WITH TRANSLUCENT COVERING**

Cross-Reference to Related Application

This application claims priority from and benefit of the filing date of U.S. provisional patent application Serial No. 60/439,351 filed January 10, 2003.

Background of the Invention

A wide variety of water spray amusement devices are known for use by children and others. These known devices have been found to be deficient for many reasons. Many of the devices are not able to be disassembled for storage. Others provide a water spray but do not provide users with an illusion of being submerged or surrounded in water at or near the ocean. Still others are sub-optimal because they do not provide any type of enclosure for protection from the sun and also for amusement. In light of the foregoing, a need has been identified for a new water spray enclosure as described herein.

Summary of the Invention

In accordance with the present invention, a water spray enclosure comprises a plurality of interconnected tubes defining a framework, wherein at least some of

the plurality of tubes are fluidically interconnected to each other so as to define a flow-path through the framework. A flexible covering is connected to and substantially coextensive with the framework and cooperates with the framework to define a tunnel-like enclosure having opposite first and second open ends and an enclosure portion between the ends. The covering is at least partially translucent. An inlet fitting is connected to one of said tubes of said framework and in fluid communication with said flow-path. The inlet fitting is adapted for fluidic connection to a water supply conduit for supplying water to said flow-path. A plurality of spray heads are in communication with said flow-path and are adapted for emitting a spray of water from said flow path into the enclosure portion between the first and second open ends.

Brief Description of the Drawings

The present invention comprises various components and arrangements of components, preferred embodiments of which are illustrated in the accompanying drawings that form a part hereof and wherein:

FIG. 1 is a rear elevational view of a water spray enclosure formed in accordance with the present invention;

FIG. 2 is a side elevational view of the water spray enclosure of FIG. 1 as taken along line 2-2 of FIG. 1;

FIG. 3 is a partial isometric view of the water spray enclosure of FIG. 1;

FIG. 3A is a partial view that shows one example of a suitable structure and

method for forming a water spray enclosure in accordance with the present development;

FIG. 4 is a partial side elevational view of the water spray enclosure **FIG. 1** and showing a preferred translucent covering with aquatic creature and other indicia thereon;

FIG. 5 illustrates one example of a spray head formed in accordance with the present invention;

FIG. 6 illustrates a second spray head embodiment;

FIG. 7 is another isometric view of a water spray enclosure formed in accordance with the present invention;

FIG. 8 shows a preferred anchoring system.

Detailed Description of Preferred Embodiment

Referring first to FIGS. 1-3A, a water spray enclosure **10** comprises a frame or skeleton **12** and a covering **14** connected to the frame. The frame **12** and covering **14** cooperate to define a tunnel-like enclosure as shown herein. The tunnel-like enclosure comprises opposite first and second ends **22a,22b** that preferably define like open mouths **24a,24b**, respectively. The tunnel-like enclosure and mouths **24a,24b** thereof are conformed and dimensioned so that children (and optionally adults) can walk or run in and/or through the enclosure, i.e., children and/or adult users enter the enclosure via either of the mouths **24a,24b**, move

about inside the enclosure and exit the enclosure through either of the mouths **24a,24b**. The enclosure **10** can be any desired or suitable length such as 8 feet or 16 feet long as measured from end **22a** to end **22b**. The maximum height of the enclosure can be varied but is preferably between about 5 feet and 6 feet.

The frame **12** is at least partially and preferably fully defined by a network of interconnected conduits such as plastic tubing, e.g., PVC pipes or the like, at least some of which are fluidically interconnected. In the illustrated embodiment, the frame **12** comprises first and second axial base tubes **12a,12b** arranged parallel to each other. A plurality of wet loop or arch tubes **12c,12d,12e,12f,12g** are connected at their respective opposite ends to the first and second base tubes **12a,12b**. One or more intermediate tubes **12j,12k** are preferably provided and extend parallel to the base tubes **12a,12b** at about the midpoint of the of the height and/or at the apex of the arch tubes **12c-12g**. The arched tubes **12c-12g** are preferably arranged in spaced parallel relation to each other, and the combination of the arched shaped and parallel spaced arrangement provides superior strength to the framework **12** and allows for an optimized water spray pattern as disclosed further below.

Regardless of their exact arrangement, the tubes **12a-12k** define the tunnel-like enclosure as described above. The frame **12** of the enclosure **10** comprises at least one water inlet fitting **30** adapted for releasable fluidic connection to an ordinary garden hose **32** or the like that supplies water under pressure **WP** from a source. An electric pump **P** (FIG. 3) is optionally provided to increase the pressure

of water supplied to the inlet fitting **30** via hose **32**. The fitting **30** is in direct fluid communication with one of the tubes **12a-12k**, preferably one of the intermediate tubes **12j,12k** such as the tube **12j** as shown, and this tube that is in direct fluid communication with the inlet fitting **30** thus functions as a water supply tube. Preferably at least each of the arch tubes **12c-12g** and both intermediate tubes **12j,12k** are connected in fluid communication to each other and the water supply tube (the tube **12j** in the present example). As such, water from the hose **32** flows under pressure into and through at least some of the frame members **12a-12k** and preferably at least all of the arch tubes **12c-12g** and intermediate tubes **12j,12k** on a flow-path as indicated by arrows **F**. An oscillator **T** or other pulsating means are optionally provided as part of the fitting **30**, pump **P** and/or elsewhere to establish pulsation in the flow **F**.

The tubes **12a-12k** are connected in any conventional manner; non-fluidic tube inter-connections are made by friction, brackets, threading, clips, ties or the like; fluidic tube inter-connections are made by threaded or snap or friction couplings or by any other suitable fluidic coupling. Of course, tubes **12a-12k** can also be molded or bonded together to form either fluidic or non-fluidic interconnections. As shown in FIG. 3A, first and second tubes **12**, which represent any of tubes **12a-12k**, can be interconnected in fluid communication using a snap-coupling **40** having a male portion **40a** that is received by a female portion **40b**. The male portion **40a** comprises a snap collar **42a** and the female portion **40b** is defined as part of a boss **42b**. The snap collar **42a** releasably engages the boss

42b when the male and female portions **40a,40b** are mated so as to hold the tubes **12** together in a fluid-tight arrangement. Regardless of the connection means used, the frame **12** is able to be disassembled and/or collapsed for storage. In one preferred embodiment, the tubes **12a-12k** of the frame **12** are telescopically interconnected with each other so that they can be telescopically collapsed for storage and telescopically extended into the illustrated operative state. When telescopically extended into an operative state, the tubes **12a-12k** preferably snap into the fully extended position.

At least some of the tubes **12a-12k**, and preferably all of the arch tubes **12c-12g**, include or define water spray heads **50** from which water spray **W** is emitted under pressure owing to the water supplied from the hose **32** via fitting **30**. As shown in Fig. 5, the spray heads **50** are each preferably defined by one or more apertures or orifices **52** defined in the tubes **12a-12k**. The number, size, shape and arrangement of the orifices **52** can be varied for each spray head **50** to control the pattern in which water spray **W** is emitted therefrom. In general, it is preferred that the water spray **W** be emitted from the heads **50** as a mist or light spray pattern rather than as a simple single stream. The spray heads **50** can be embedded into the tubes **12a-12k** and fixed in position so as to emit a select spray pattern. An alternative spray head **50'** is shown in FIG. 6 and comprises a head portion **54** including orifices **56** defined therein through which water is emitted. The head portion **54** rotates in response to water pressure from the flow **F** so that the water spray **W** moves in a circular pattern in response to rotation of the head **54**. In all

cases, it is preferred that the water spray **W** be directed in multiple directions throughout the enclosure **10**. For example, water spray **W** originating from the central arch tubes **12d,12e,12f** is preferably directed downward and also toward both ends **22a,22b**; water spray **W** originating at the end arch tubes **12c,12g** is preferably directed downward and inwardly toward the center of the enclosure **10**. The spray heads **50** can also comprise shower heads. In any case, including at least one and preferably multiple spray heads **50** on each arched tube **12c-12g** is critical for maximum coverage of the spray pattern **W** in a manner that will encompass a person within the enclosure **10** with minimum pressure loss. The spray heads **50,50'** can be located in any tube **12a-12k** that forms part of the flow path **F**, including the tubes **12a,12b**.

As mentioned, the enclosure **10** comprises a covering **14** connected to and at least substantially coextensive with the frame **12**. The covering **14** cooperates with the frame **12** to define the tunnel-like enclosure. The covering **14** is preferably draped over the arch tube members **12c-12g** as shown so as to define the tunnel-like enclosure with the open mouths **24a,24b** at the ends **22a,22b**. In addition to the ends **22a,22b** being uncovered to define the mouths **24a,24b**, the enclosure **10** can have an open, uncovered floor, i.e., the grass or other support surface on which the frame **12** is erected and supported can define the floor of the enclosure **10**. Preferably the enclosure comprises a plastic or rubber floor mat **M** defined from a sheet material that is connected to or separate from the frame **12**. The floor mat **M** can be a simple sheet structure, but it is preferably a multi-walled structure that is

filled with a fluid such as air or water for cushioning. The covering **14** is preferably defined from one or more plastic sheets such as PVC or other plastic sheets that are releasably secured to the frame **12** via adhesive, hook-and-loop fastening elements, adhesive, hooks/eyelets, snaps, magnets and/or other suitable convenient fastening means. The covering **14** is preferably transparent or at least translucent so that at least some light passes therethrough into the enclosure **10**. In one preferred embodiment as shown in Fig. 4, the covering **14** is defined from blue, blue/green or similar colored translucent plastic sheets that simulate the appearance of the ocean in sunlight. Furthermore, the covering **14** preferably comprises aquatic indicia **16** such as fish, bubbles, underwater plants and/or other underwater objects or animals printed or otherwise included thereon. In this case, children or others inside the enclosure **10** are presented with an optical illusion of being underwater as might be encountered during scuba diving or swimming.

The wet loop water spray enclosure **10** provides a safe, effective and fun means for allowing children and others to be sprayed with water **W** for cooling and amusement purposes. As shown in FIG. 7, children or other users enter the enclosure **10** via either mouth **24a,24b** and walk or run through and/or within the enclosure **10** to encounter the water spray **W**. The preferred translucent water-colored (blue, green, etc.) covering **14** with aquatic indicia **16** thereon, in combination with the water spray **W**, provides an illusion of being underwater in the ocean to those within the enclosure **10**. The enclosure **10** can also be readily disassembled for storage as described.

The enclosure **10** can be self-supporting via frame **12** or can be anchored to the earth or other support surface using spikes, straps, weights, and/or other suitable means. FIG. 8 partially shows an enclosure **10** supported on a surface **Z**. In the illustrated example, the enclosure comprises multiple support brackets **B** connected to the frame **12** such as the frame member **12c**, and a spike **S** is engaged with the bracket **B** and driven into the surface **Z**. Preferably, as shown, the spike **S** is also engaged with the covering **14** to secure same.

Modifications and alterations will occur to those of ordinary skill in the art upon reading this specification. It is intended that the present invention be construed as encompassing all such modifications and alterations.